UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,567	11/24/2003	Justin Russell Bendich	SJO920030051US1	5721

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2443	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	**Applicant(s)**
Office Action Summary	10/720,567	BENDICH ET AL.
	Examiner	**Art Unit**	
	ANISH SIKRI	2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2008*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-16 and 20-28* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6-16 and 20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Specification Objection

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claims 15-16, 20-22, 27-28 state computer readable program medium, whereas the specifications define storage medium. It is suggested that the specifications are amended to reflect the changes.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2, 6-10, 11-14 are rejected under 35 U.S.C. 101 because the claims are directed towards a modeling apparatus comprising several modules. According to the specification modules may be implemented in software. See paragraph 0027 below.

[0027] Modules may also be implemented in software for execution by various types of processors. An identified module of executable code may, for instance, comprise one or more physical or logical blocks of computer instructions which may, for instance, be organized as an object, procedure, or function. Nevertheless, the executables of an identified module need not be physically located together, but may comprise disparate instructions stored in different locations which, when joined logically together, comprise the module and achieve the stated purpose for the module.

For claims 11-14, it states for a system comprising a client and server, both of which may be implemented in software as shown in the paragraphs below. Therefore it appears that all clients and servers of Applicant's invention can be software if they aren't tied to a device in anyway:

[0005] Provisioning storage in a storage system refers to allocating physical memory for a specific application or <u>client</u>.

[0032] The storage system 100 also includes a client 104 that is connected directly to the storage resource manager <u>server</u> 102. In a further embodiment, the storage system 100 may include a remote client 106 that is configured to access the storage resource manager <u>server</u> 102 via a web <u>server</u> 108. The web <u>server</u> 108, in one embodiment, may run on the same physical <u>server</u> as the storage resource manager <u>server</u> 102.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed
or described as set forth in section 102 of this title, if the differences between the
subject matter sought to be patented and the prior art are such that the subject
matter as a whole would have been obvious at the time the invention was made
to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was
made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
      obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1, 2, 6, 15, 16, 20, 23, 27 are rejected under U.S.C. 103(a) as being

anticipated by Gajjar et al (US Pub 20020174306) hereafter known as Gajjar1, in view

of Gajjar et al (US Pat 7,415,506) hereafter known as Gajjar2, and in further view of

Arnold (US Pat 7480912).

Consider claim 1, Gajjar1 disclosed the modeling apparatus for provisioning a

storage resource, the apparatus comprising (Gajjar1 [0008]-[0009], Gajjar1 disclosed on

how a storage provisioning policy helps in creating a storage model): a monitoring

module configured to monitor a plurality of existing storage resources corresponding to

a client (Gajjar1, [0008], [0028], Gajjar1 disclosed on how physical storage devices are

connected), wherein one of the plurality of existing storage resources designated is the

model storage resource (Gajjar1, [0007]-[0009], Gajjar1 disclosed on creating storage

policy which in turn is used to create model storage resources based on the specified

model requirements); a policy module configured to store a plurality of storage

provisioning policies (Gajjar1, [0008] Gajjar1 disclosed the use of storage policies), the

plurality of storage provisioning policies defining a modeling policy (Gajjar1, [0055],

Gajjar1 disclosed on how storage policies provide a model policy for creation of specific

storage resources). A provisioning module configured to provision a new storage

resource for the client according to the modeling policy (Gajjar1, [0055-0056], Gajjar1

disclosed provisioning storage using a storage provisioning policy), the new storage

resource modeled after the model storage resource (Gajjar1, [0046-0047], Gajjar1

disclosed on the use of a new storage modeled after model storage policy). Gajjar1's

invention disclosed on how first storage devices are monitored on the network (Gajjar1,

[0022], [0028]) and the use of a storage provisioning polices for the purpose of

allocating new storage resources to the apparatus, used in conjunction with a

monitoring module (Gajjar1, [0046-0047]).

But Gajjar1 does not explicitly disclose the specification module configured to specify a

Logical Unit Number (LUN) storage resource in modeling policy;

Nonetheless, Gajjar2 disclosed the specification module configured to specify a

Logical Unit Number (LUN) storage resource in modeling policy (Gajjar2, Col 6 Lines

37-58, Gajjar2 disclosed on how a media unit is configured based on the specifications

stored in memory of the system, and a model resource is created based on the

specifications desired.

Both inventions of Gajjar et al provide features related to storage management.

Therefore one of ordinary skill in the art would have been motivated to combine the

teachings since both are within the same environment.

Therefore, it would have been obvious to a person skilled in the art at the time of the

invention was made to incorporate the creation of model resource based on

specifications, taught by Gajjar2, in the system of Gajjar1 for the purpose of managing

storage resources efficiently.

But Gajjar1 does not explicitly disclose storage alert for the client, the new LUN

storage resource can be provisioned in the model storage pool else if the new LUN

storage resource cannot be provisioned in the model storage pool, provision the new

LUN storage resource for the client in the any storage pool managed by the model

storage server, wherein the new LUN storage resource is modeled after the model

storage resource.

Nonetheless, Arnold discloses storage alert of the client (Arnold, Col 6 Lines 6-

10, Arnold disclosed the use of alerts) the new LUN storage resource can be

provisioned in the model storage pool (Arnold, Col 4 Lines 53-55, Arnold discloses on

the management unit determines that it requires new storage allocation, further support

can be seen in Col 6 Lines 52-55, Arnold indicates that the system does evaluates its

model of the storage system and estimates benefits of the model system) else if the

new LUN storage resource cannot be provisioned in the model storage pool (Arnold,

Col 5 Lines 23-27, Arnold discloses that if provisioning is done via 2 modes - one is via

monitoring mode and other is via request-response mode, and if the provisioning is not

carried out via monitoring mode, and it is done via request-response mode - as in this

case the unit determines, the provisioning is not carried out and it determines on how to

proceed to the next step via condition evaluation), provision the new LUN storage

resource for the client in the any storage pool (Arnold, Col 4 Lines 53-55) managed by

the model storage server, wherein the new LUN storage resource is modeled after the

model storage resource (Arnold, Col 6 Lines 52-55, Arnold indicates that the system

does evaluates its model of the storage system and estimates benefits of the model system).

Both Arnold and Gajjar1 provide features related to storage management. Therefore one of ordinary skill in the art would have been motivated to combine the teachings since both are within the same environment.

Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to incorporate the management of allocation of resources based on model system, taught by Arnold, in the system of Gajjar1 for the purpose of managing storage resources efficiently.

Consider Claim 2, and as applied to claim 1, Gajjar1-Gajjar2-Arnold discloses a specification module configured to allow a user to specify one of the plurality of storage provisioning policies (Gajjar1 [0046-0047). Gajjar1's invention clearly shows the use of a storage provisioning polices for the purpose of allocating new storage resources to the apparatus.

Consider Claim 6, and as applied to claim 1 above, Gajjar1-Gajjar2-Arnold, discloses the modeling policy specifies a model group to which the model storage resource belongs (Gajjar1, [0046-0047]). Gajjar1's invention clearly shows on how the modeling policy identifies the physical groups to which the storage resource belongs to on the apparatus.

Claim 15 has similar limitations as Claim 1. Therefore it is rejected under the same rational as Claim 1.

Claim 16 has similar limitations as Claim 2. Therefore it is rejected under the same rational as Claim 2.

Claim 20 has similar limitations as Claim 6. Therefore it is rejected under the same rational as Claim 6.

Consider Claim 23, Gajjar1-Gajjar2-Arnold discloses the apparatus of claim 1, wherein the storage alert (Arnold, Col 6 Lines 6-10, Arnold disclosed the use of alerts) is in response to detecting to extend a file system and wherein the file system comprises the model storage resource (Arnold, Col 1 Lines 17-20, Arnold discloses that the file systems can be in containers, which are thus available as storage resources).

Claim 27, has similar limitations as of Claim 23, therefore it is rejected under the same rational as Claim 23.

Claims 7-14, 21, 22, 24-26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gajjar et al (US Pub 20020174306), and further in view of Gajjar et al (US Pat 7,415,506) hereafter known as Gajjar2, further in view of Arnold (US Pat 7,480,912) and in view of Dalal et al (US Pub 20040123063) hereafter known as Dalal.

Consider Claim 7, and as applied to claim 6 above, Gajjar1-Gajjar2-Arnold, does not explicity state the model group comprises a volume group used by the client. Nonetheless, Dalal disclosed the model group comprises a volume group used by the client (Dalal [0019] and [0188]). Dalal's invention clearly shows on the use of volume groups.

Both Gajjar1-Gajjar2-Arnold and Dalal provide features related to storage area management. Therefore one of ordinary skill would have been motivated to combine the teachings since both are within the same environment.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the use volume groups by client, taught by Dalal in the system of Gajjar1-Gajjar2-Arnold for the purpose of creating local volume groups extents for allocating and managing storage resources on the apparatus.

Consider Claim 8, and as applied to claim 1 above, Gajjar1-Gajjar2-Arnold does not explicitly state the new LUN storage resource is assigned to a file system and expands a storage capacity of the file system.

Nonetheless, Dalal clearly shows the new LUN storage resource is assigned to a file system and expands a storage capacity of the file system (Dalal [0018]). The use of file system is clearly shown in Dalal's invention of storage allocation.

Both Gajjar1-Gajjar2-Arnold and Dalal provide features related to storage area management. Therefore one of ordinary skill would have been motivated to combine the teachings since both are within the same environment.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the use of a file system, taught by Dalal, in the system of Gajjar1-Gajjar2-Arnold for the purpose having storage resources/physical groups to be configured to use by the existing file system of the apparatus/server.

Consider Claim 9, and as applied to claim 8 above, Gajjar1-Gajjar2-Arnold as modified by Dalal disclosed the modeling policy specifies a model group to which the model storage resource belongs, the model group comprising a volume group in which the file system is stored Dalal, [0018],[0019] and [0188]). Dalal disclosed on how the volume groups are configured with the file system.

Consider Claim 10, and as applied to claim 1, Gajjar1-Gajjar2-Arnold, does not explicitly state the new storage resource is assigned to a raw logical volume and expands a storage capacity of the raw logical volume.

Nonetheless, Dalal discloses the new storage resource is assigned to a raw logical volume and expands a storage capacity of the raw logical volume (Dalal [0017]). Dalal disclosed on how logical volumes are added to the system.

Both Gajjar1-Gajjar2-Arnold and Dalal provide features related to storage area

management. Therefore one of ordinary skill would have been motivated to combine

the teachings since both are within the same environment.

Therefore it would have been obvious to a person of ordinary skill in the art at the

time of the invention was made to implement the use logical volumes configured to be

used in the system, taught by Dalal, in the system of Gajjar1-Gajjar2-Arnold for the

purpose of increasing or allocating storage resources of the apparatus.

Consider Claim 11, Gajjar1 discloses a storage resource manager server

configured to monitor a plurality of existing storage resources corresponding to the

client (Gajjar1 [0008], [0028], Gajjar1 disclosed on how physical storage devices are

connected) and to provision a new storage resource for the client according to a

modeling policy (Gajjar1 [0032]-[0033]) and the new storage resource modeled after a

model storage resource; and a storage server configured to store the model storage

resource and the new storage resource (Gajjar1, [0046-0047]).

But Gajjar1 does not explicitly disclose that to specify a LUN storage resource as

a model storage in a modeling policy, wherein the model storage resource is one of the

plurality of existing storage resources;

Nonetheless, Gajjar2 disclosed the specification module configured to specify a

Logical Unit Number (LUN) storage resource in modeling policy (Gajjar2, Col 6 Lines

37-58, Gajjar2 disclosed on how a media unit is configured based on the specifications

stored in memory of the system, and a model resource is created based on the

specifications desired.

Both inventions of Gajjar et al provide features related to storage management.

Therefore one of ordinary skill in the art would have been motivated to combine the

teachings since both are within the same environment.

Therefore, it would have been obvious to a person skilled in the art at the time of

the invention was made to incorporate the creation of model resource based on

specifications, taught by Gajjar2, in the system of Gajjar1 for the purpose of managing

storage resources efficiently.

Gajjar1 does not explicitly state the system, in which it indicates a client having a

file system.

Nonetheless, Dalal disclosed a client having a file system (Dalal [0018]). The

use of file system is clearly shown in Dalal's invention of storage allocation.

Both Gajjar1 and Dalal provide features related to storage area management.

Therefore one of ordinary skill would have been motivated to combine the teachings

since both are within the same environment.

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention was made to implement the use of a file system, taught by

Dalal, in the system of Gajjar1 for the purpose of accessing the new storage resources

of the system.

But Gajjar1 does not explicitly disclose the new LUN storage resource can be

provisioned in the model storage pool else if the new LUN storage resource cannot be

provisioned in the model storage pool, provision the new LUN storage resource for the client in the any storage pool managed by the model storage server, wherein the new LUN storage resource is modeled after the model storage resource.

Nonetheless, Arnold discloses the new LUN storage resource can be provisioned in the model storage pool (Arnold, Col 4 Lines 53-55, Arnold discloses on the management unit determines that it requires new storage allocation, further support can be seen in Col 6 Lines 52-55, Arnold indicates that the system does evaluates its model of the storage system and estimates benefits of the model system) else if the new LUN storage resource cannot be provisioned in the model storage pool (Arnold, Col 5 Lines 23-27, Arnold discloses that if provisioning is done via 2 modes - one is via monitoring mode and other is via request-response mode, and if the provisioning is not carried out via monitoring mode, and it is done via request-response mode - as in this case the unit determines, the provisioning is not carried out and it determines on how to proceed to the next step via condition evaluation), provision the new LUN storage resource for the client in the any storage pool (Arnold, Col 4 Lines 53-55) managed by the model storage server, wherein the new LUN storage resource is modeled after the model storage resource (Arnold, Col 6 Lines 52-55, Arnold indicates that the system does evaluates its model of the storage system and estimates benefits of the model system).

Both Arnold and Gajjar1 provide features related to storage management. Therefore one of ordinary skill in the art would have been motivated to combine the teachings since both are within the same environment.

Therefore, it would have been obvious to a person skilled in the art at the time of

the invention was made to incorporate the management of allocation of resources

based on model system, taught by Arnold, in the system of Gajjar1 for the purpose of

managing storage resources efficiently.

Consider Claim 12, and as applied to claim 11 above, Gajjar1-Gajjar2-Dallal-

Arnold disclosed the storage resource manager repository configured to store a plurality

of storage provisioning policies, the plurality of storage provisioning policies comprising

the modeling policy (Gajjar1, [0007]-[0008). Gajjar1's invention clearly shows the use of

a storage provisioning polices for the purpose of allocating new storage resources to the

system.

Consider Claim 13, and as applied to claim 12 above, Gajjar1-Gajjar2-Dallal-

Arnold disclosed a module where configured to allow a user to access and specify one

of the plurality of storage provisioning policies (Gajjar1 [0032]-[0033]). Gajjar1's

invention clearly shows the use of a storage provisioning polices for the purpose of

allocating new storage resources to the system by the user.

Consider Claim 14, and as applied to claim 11 above, Gajjar1-Gajjar2-Dallal-

Arnold disclosed wherein the modeling policy specifies a model group to which the

model storage belongs (Arnold, Col 7 Lines 12-20, Arnold disclosed on what type of

groups are there based on the policy) .

Consider Claim 21, and as applied to claim 20 as above, Gajjar1-Gajjar2-Arnold, does

not explicitly state the model group comprises a volume group used by the client.

Nonetheless, Dalal clearly shows the model group comprises a volume group used by

the client (Dalal [0018]-[0019] and [0188]). Dalal's invention clearly shows on the use of

volume groups.

Both Gajjar1-Gajjar2 and Dalal provide features related to storage area management.

Therefore one of ordinary skill would have been motivated to combine the teachings

since both are within the same environment

Therefore it would have been obvious to a person of ordinary skill in the art at the time

of the invention was made to implement the use volume groups by client, taught by

Dalal, in the system of Gajjar1-Gajjar2 for the purpose of creating local volume groups

extents for allocating and managing storage resources on the computer readable

storage medium.

Consider Claim 22, and as applied to claim 21 as above, Gajjar1-Gajjar2-Arnold-Dallal,

disclosed new storage resource corresponds to a file system and wherein the model

group comprises a volume group in which the file system is stored (Dalal, [0018]-[0019]

and [0188]). Dalal's invention clearly shows on the use of volume groups, which are

configured with the file system.

Consider Claim 24, Gajjar-Gajjar2-Arnold disclose the file system (Arnold, Col 1 Lines 17-20, Arnold discloses that the file systems can be in containers, which are thus available as storage resources), and the model storage resource (Arnold, Col 6 Lines 52-55, Arnold indicates that the system does evaluates its model of the storage system and estimates benefits of the model system).

But Gajjar-Gajjar2-Arnold does not explicitly disclose a volume group, and the new LUN storage resource is provisioned in the volume group of the file system.

Nonetheless, Dalal discloses a volume group (Dalal, [0188], Dalal disclosed the use of volume groups), and the new LUN storage resource is provisioned in the volume group of the file system (Dalal, [0142], disclosed that the logical volume is proviosioned in the disk group of the system).

Both Dalal and Gajjar-Gajjar2-Arnold provide features related to storage area management. Therefore one of ordinary skill would have been motivated to combine the teachings since both are within the same environment.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the use volume groups by client, taught by Dalal, in the system of Gajjar1-Gajjar2-Arnold for the purpose of creating local volume groups extents for allocating and managing storage resources.

Claim 25, has similar limitations as of Claim 23, therefore it is rejected under the same rational as Claim 23.

Claim 26, has similar limitations as of Claim 25, therefore it is rejected under the same rational as Claim 25.

Claim 28, has similar limitations as of Claim 25, therefore it is rejected under the same rational as Claim 25.

Response to Arguments

Applicant's arguments with respect to claims 1, 6-10, 11-14, 15, 16, 20-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH SIKRI whose telephone number is 571-270-1783. The examiner can normally be reached on 8am - 5pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia Dollinger can be reached on 571-272-4170. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anish Sikri
a.s.

March 15, 2009

/Tonia LM Dollinger/
Supervisory Patent Examiner, Art Unit 2443